WHAT IS CLAIMED IS:

1   1. A method for automatically tracing an interface for an exchange and a subscriber network

2   comprising the steps of:

3   receiving setting particulars from an operator in order to perform a trace of a subscriber with

4   respect to an interface for a local exchange and a subscriber network;

5   checking the setting particulars of the operator by receiving a trace request for the interface

6   from the operator, performing trace relevant to the setting particulars, providing trace results to the

7   operator; and

8   providing information for an event accommodating the operator to check the information

9   upon occurrence of a trace event at an interface relevant to the setting particulars of the operator.

1   2. The method according to claim 1, wherein trace for the interface and trace information

2   providing are realized through a network management system used by the operator.

1   3. The method according to claim 2, wherein the network management system is substantially

2   an element management system.

1   4. The method according to claim 3, wherein the step of receiving the setting particulars from

2   the operator comprises the steps of:

3   providing a setting menu to the operator, receiving inputs thereto in order to perform a

4   subscriber trace with respect to an interface for an exchange and a subscriber network;

5   storing an identification for the interface from the operator; and

6   storing setting information input from the operator in order to perform trace for a user port

7   or each protocol entity depending on whether a port identifier is input from the operator.

1   5. The method according to claim 2, wherein the step of receiving the setting particulars from

2   the operator comprises the steps of:

3   providing a setting menu to the operator, receiving inputs thereto in order to perform a

4   subscriber trace with respect to an interface for an exchange and a subscriber network;

5   storing an identification for the interface from the operator; and

6   storing setting information input from the operator in order to perform trace for a user port

7   or each protocol entity depending on whether a port identifier is input from the operator.

1   6. The method according to claim 1, wherein the step of receiving the setting particulars from

2   the operator comprises the steps of:

3   providing a setting menu to the operator, receiving inputs thereto in order to perform a

4   subscriber trace with respect to an interface for an exchange and a subscriber network;

5   storing an identification for the interface from the operator; and

6   storing setting information input from the operator in order to perform trace for a user port .

7   or each protocol entity depending on whether a port identifier is input from the operator.

1   7. The method according to claim 3, wherein the step of checking the setting particulars of

2   the operator comprises the steps of:

3   receiving a request from the operator in order to perform a subscriber trace with respect to

4   an interface for an exchange and a subscriber network including a V5 protocol;

5   checking whether information for the designated interface as well as the trace request from

6   the operator exist;

7   when information for the designated interface exists as a result of checking, requesting

8   performing of trace for the interface on the basis of the information, receiving the performed trace

9   results, displaying the results in order to provide the same to the operator; and

10   when information for the designated interface does not exist as a result of checking, grasping

11 the setting particulars from the operator, requesting performing of trace for the interface on the basis

12 of the setting particulars, receiving the performed trace results, displaying the same.

1   8. The method according to claim 2, wherein the step of checking the setting particulars of

2   the operator comprises the steps of:

3   receiving a request from the operator in order to perform a subscriber trace with respect to

4   an interface for an exchange and a subscriber network, including a V5 protocol;

5   checking whether information for the designated interface as well as the trace request from

6   the operator exist;

7   when information for the designated interface exists as a result of checking, requesting

8   performing of trace for the interface on the basis of the information, receiving the performed trace

9   results, displaying the results in order to provide the same to the operator; and

10   when information for the designated interface does not exist as a result of checking, grasping

11 the setting particulars from the operator, requesting performing of trace for the interface on the basis

12 of the setting particulars, receiving the performed trace results, displaying the same.

1   9. The method according to claim 1, wherein the step of checking the setting particulars of

2 the operator comprises the steps of:

3   receiving a request from the operator in order to perform a subscriber trace with respect to

4 an interface for an exchange and a subscriber network, including a V5 protocol;

5   checking whether information for the designated interface as well as the trace request from

6 the operator exist;

7   when information for the designated interface exists as a result of checking, requesting

8 performing of trace for the interface on the basis of the information, receiving the performed trace

9 results, displaying the results in order to provide the same to the operator; and

10   when information for the designated interface does not exist as a result of checking, grasping

11 the setting particulars from the operator, requesting performing of trace for the interface on the basis

12 of the setting particulars, receiving the performed trace results, displaying the same.

1   10. The method according to claim 3, wherein the step of providing the information for the

2 event comprises the steps of:

3   being informed of occurrence of the event related to an interface for an exchange and a

4 subscriber network, including a V5 protocol;

5   checking whether the event is an event of a level that should be informed to the operator, and

6 when the event is checked to be an event of a level that should be informed to the operator, checking

7 whether setting from the operator exists;

8   when setting from the operator does not exist with respect to the event as a result of checking,

9   standing by without informing the operator of the event; and

10   when setting from the operator exists with respect to the event as a result of checking,

11   displaying information for the event accommodating the operator to check.

1   11. The method according to claim 2, wherein the step of providing the information for the

2   event comprises the steps of:

3   being informed of occurrence of the event related to an interface for an exchange and a

4   subscriber network, including a V5 protocol;

5   checking whether the event is an event of a level that should be informed to the operator, and

6   when the event is checked to be an event of a level that should be informed to the operator, checking

7   whether setting from the operator exists;

8   when setting from the operator does not exist with respect to the event as a result of checking,

9   standing by without informing the operator of the event; and

10   when setting from the operator exists with respect to the event as a result of checking,

11   displaying information for the event accommodating the operator to check.

1   12. The method according to claim 1, wherein the step of providing the information for the

2   event comprises the steps of:

3   being informed of occurrence of the event related to an interface for an exchange and a

4   subscriber network, such as a V5 protocol;

5   checking whether the event is an event of a level that should be informed to the operator, and

6   when the event is checked to be an event of a level that should be informed to the operator, checking

7   whether setting from the operator exists;

8   when setting from the operator does not exist with respect to the event as a result of checking,

9   standing by without informing the operator of the event; and

10   when setting from the operator exists with respect to the event as a result of checking,

11   displaying information for the event accommodating the operator to check.

1   13. The method according to claim 12, further comprised of the exchange being a local

2   exchange.

1   14. The method according to claim 13, further comprised of the subscriber network being an

2   access network.

1   15. A method, comprising of:

2   receiving a setting request accommodating tracing of a subscriber requesting to input an

3   identification;

4   inputting the requested identification and then checking whether a port identification is input;

5   setting the trace to on or off, setting a corresponding port type, and to set whether to describe

6   a first value when the port identification is input as a result of checking, determining whether to add

7   the first value to the back of a message;

8   when a port identification is not input as a result of checking whether a port identification

9   is input after receiving the requested identification, receiving setting for the relevant particulars by

10 setting a detailed protocol type;

11 storing the relevant setting particulars for information received, performing the setting on a

12 system on the basis of such information; and

13 displaying and providing the information on a screen, accommodating a check of the

14 information.

1 16. The method of claim 15, further comprising of:

2 receiving a referring request;

3 checking whether the identification is input;

4 when the identification is input as a result of checking, displaying a status of the relevant

5 identification, displaying a status for each port identification of the relevant identification;

6 when the identification is not input as a result of checking whether identification is input,

7 displaying a status of the set identification trace on a screen, performing input information display

8 according to the referring request; and

9 performing a trace on the basis of the input information and displaying results thereof on the

10 screen.

1 17. The method of claim 15, with the identification being a V5 identification.

1 18. The method of claim 15, further comprising of:

2 receiving information of trace notification occurrence;

3 when notification condition occurs, checking whether the notification is an event represented

4   through a trace view screen in order to show such condition;

5   when the generated event is an event that should be represented through a trace view screen

6   as a result of checking whether the generated event is an event represented through a trace view

7   screen, transmitting relevant data to a trace view processing block;

8   checking whether a system identification for the generated event is the same as the system

9   identification selected on a trace view by the trace view processing block; and

10   when a system identification is the same as a result of checking whether a system

11   identification for the occurred event is the same as the system identification selected on a trace view,

12   then displaying the generated event on the trace notification view by the trace view processing block.

1   19. A computer-readable medium having computer-executable instructions for performing

2   a method, comprising:

3   receiving setting particulars from an operator in order to perform a trace of a subscriber with

4   respect to an interface for a local exchange and a subscriber network;

5   checking the setting particulars of the operator by receiving a trace request for the interface

6   from the operator, performing trace relevant to the setting particulars, providing trace results to the

7   operator; and

8   providing information for an event accommodating the operator to check the information

9   upon occurrence of a trace event at an interface relevant to the setting particulars of the operator.

1   20.   A computer-readable medium having stored thereon a data structure comprising:

2   a first field containing data representing receiving a setting request accommodating tracing

3   of a subscriber requesting to input an identification;

4   a second field containing data representing inputting the requested identification and then

5   checking whether a port identification is input;

6   a third field containing data representing setting the trace to on or off, setting a corresponding

7   port type, and to set whether to describe a first value when the port identification is input as a result

8   of checking, determining whether to add the first value to the back of a message;

9   a fourth field containing data representing when a port identification is not input as a result

10   of checking whether a port identification is input after receiving the requested identification,

11   receiving setting for the relevant particulars by setting a detailed protocol type;

12   a fifth field containing data representing storing the relevant setting particulars for

13   information received, performing the setting on a system on the basis of such information; and

14   a sixth field containing data representing displaying and providing the information on a

15   screen, accommodating a check of the information.